

**Using Portfolios to Assess Learning in Chemistry: One School's
Story of Evolving Assessment Practice**

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Starlin Dawn Weaver

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Thomas G. Teates, Chair
Michael Bentley
Melanie Biermann
John Kowalski
Susan Magliaro

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by

Starlin Dawn Weaver
Committee Chairperson: Thomas G. Teates
Department of Teaching and Learning

Abstract

The purpose of this study was to investigate the process of implementing an alternative form of assessment in chemistry classrooms. The current reform of science education involves the implementation of varied forms of instruction; it stands to reason that assessment will evolve with the curriculum (Baxter, Shavelson, Goldman & Pine, 1992). In an era for which the exclusive use of multiple-choice and similar tests i.e., fill-in-the-blank, matching, and true/false are inappropriate measures of student abilities (Hamm & Adams, 1991), portfolios can offer a suitable alternative assessment, as well as a means for evaluation (Paulson, Paulson & Meyer, 1991).

This study was conducted in a small math, science and technology high school and focused on three individual teachers and twelve of their students. The research focused on how teachers defined portfolios and implemented this assessment tool in their classrooms and how students and teachers perceived the use and value of the process.

This study employed qualitative methodology using individual interviews, document analyses, and classroom observations. Data sources

included documents, transcripts of interviews and fieldnotes.

The primary research questions were: How do the teachers define and implement portfolios? How do the teachers' definitions of portfolios change during implementation? What are the students' understandings of portfolios and how they are used and do the students' understandings change? What do teachers and students believe portfolios represent regarding the learning that occurs in the science classroom? and What do the data collected via this study demonstrate about portfolios as a valid means of assessing student progress?

The teachers' and students' definitions addressed four of the six components of portfolios identified in the literature. Both groups recognized a defined use, evidence, student and teacher made decisions, and reflection as key portfolio elements. Each group failed to identify the components of a defined goal and teacher student conferences.

Portfolios were viewed by the teachers and students as a valuable tool. This value was defined in terms of student self assessment and evaluation, teacher assessment and evaluation, college admission, goal setting, promotion of student organizational skills and recognition of student success.

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DEDICATION

I dedicate this document to my
caring and loving Mother,
wonderful baby Sister and
my thoughtful Brother and Sister in Law.
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